Claims

1. A method of treating cancer, comprising administering a therapeutically effective dose of attenuated measles virus to a patient so as to reduce the number of cancer cells in the patient.

2. The method of claim 1, wherein said attenuated measles virus is administered directly to said cancer cells.

3. The method of claim 1, wherein said cancer cells are part of a tumor.

4. The method of claim 3, wherein said attenuated measles virus is injected directed into said tumor.

5. The method of claim 4, wherein said therapeutically effective dose of attenuated measles virus is provided in a formulation comprising an excipient, and said formulation is implanted in proximity to, or within, said tumor.

6. The method of claim 5, wherein said therapeutically effective dose is provided continuously to said patient.

7. The method of claim 5, wherein said therapeutically effective dose is provided in pulses to said patient.

8. The method of claim 1, wherein said therapeutically effective dose is administered systemically to a patient by intravenous injection.

9. The method of claim 1, wherein said therapeutically effective dose is administered systemically to a patient intravenously to a patient through a medical access device.

10. The method of any of claims 1-10, wherein said therapeutically effective dose is a dose of about 10^3 to about 10^{12} pfu.

11. The method of any of claims 1-9, wherein said therapeutically effective dose is greater than about 10^3 pfu.

12. The method of claim 11, wherein said therapeutically effective dose is about 10^5 pfus.

13. The method of claim 11, wherein said therapeutically effective dose is about 10^6 pfus.

14. The method of claim 11, wherein said therapeutically effective dose is about 10^7 pfus.

15. The method of claim 11, wherein said therapeutically effective dose is about 10^8 pfus.

16. The method of claim 1, wherein said therapeutically effective dose of attenuated measles virus is provided in a composition comprising said attenuated measles virus, an attenuated mumps virus, and an attenuated rubella virus.

17. The method of claim 1, wherein said therapeutically effective dose of attenuated measles virus is provided in a composition comprising said attenuated measles virus and an attenuated rubella virus.

18. The method of claim 1, wherein said attenuated measles virus is genetically modified to express a marker polypeptide, and wherein the expression of said marker polypeptide correlates with the replication of said attenuated measles virus.

19. The method of claim 18, wherein said marker polypeptide is β-galactosidase or Green Fluorescent Protein.

20. The method of claim 1, wherein said cancer cells are selected from the group consisting of melanoma, carcinoma, glioma, myeloma cells, and combinations thereof.

21. The method of claim 19 wherein said myeloma cells are lymphoma cells.

22. The method of claim 21, wherein said lymphoma cells are Non-Hodgkin's Lymphoma cells.

23. The method of claim 1, wherein said therapeutically effective amount of attenuated measles virus is an amount effective to cause a reduction in the number of cancer cells in a patient.

24. The method of claim 1, wherein said attenuated measles virus is provided within a vaccine formulation.

25. The method of claim 24, wherein said vaccine is the Attenuvax® vaccine.

26. The method of claim 24, wherein said vaccine is the MMR-II vaccine.

27. The method of claim 25, wherein said vaccine is the Priorix vaccine.

28. The method of claim 1, wherein said attenuated virus is selected from the group consisting of the Edmonston Zagreb measles strain, the Edmonston-Enders stain, the Moraten strain, and the Moraten Berna strain.

29. The method of claim 1, wherein said attenuated virus comprises a strain obtained after serial passage of a Moraten strain on non-human cells.

30. The method of claim 1, wherein said attenuated virus comprises a strain obtained after serial passage of a Edmonston strain on non-human cells.

31. The method of claim 1, wherein said attenuated virus comprises at least one point mutation in a wild-type or attenuated measles virus genome.

32. The method of claim 31, wherein said attenuated virus does not comprise contiguous point mutations.